

# Case report: Reproductive failure due to PCV2 in a Spanish Farm



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## INTRODUCTION

Porcine circovirus type 2 (PCV2) is a globally prevalent disease and can be observed in growing pigs with PCV2-associated disease (PCVAD). PCV2 can be also associated with reproductive failure and can cause abortions, but more frequently it is associated with increased rates of mummified, macerated, stillborn and weak-born piglets<sup>1,2</sup>.

An previous study carried out in Spain found that only in one out of 293 reproductive failure cases PCV2 DNA was detected<sup>3</sup>.

The aim of this study is to evaluate de different pathogens that can be involved in a reproductive failure in a Spanish farm.

## MATERIALS AND METHODS

The case report farm is a two-site, 500-head sow farm located in southeastern part of Spain. The farm was positive for PRRS( stable at the time of the reproductive disorders), Mycoplasma, PCV2. The farm was vaccinating against PRRSv (Reprocyt PRRS EU; Boehringer Ingelheim Vetmedica GmbH) every 3 months, IAV-S (H1N1, H3N2) and PPV which was applied post farrow. During the summer of 2016 an increase in the abortion rate (5,1% to 48,3%) (Figure 1) and a decrease of total born pigs (14,31 to 10,43) was detected for the gilts (Figure 2). Also the viability of the piglets went down. The reproductive parameters of the multiparous sows remained stable (Figure 3).

Figure 1: SPC chart of Percentage of abortions by month in Gilts.

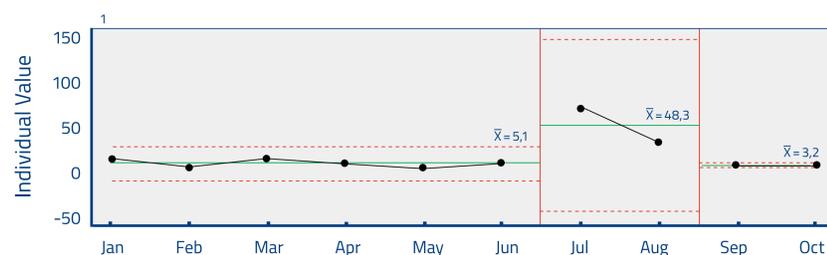


Figure 2: SPC chart of Total born by month in Gilts.



Figure 3: SPC chart of Percentage of abortions by month in Multiparous sows.



Blood samples and 6 aborted fetuses from 3 gilts were taken and tested via PCRs from lung samples for PRRSv, PCV2, IAV-S and via ELISA from thoracic fluid for PPV. Paired blood samples were taken from sows on the day of an abortion and 15 days later and tested via ELISA for Leptospira, PRRSv and IAV-S).

## RESULTS

No seroconversion was observed in the sows. All the diagnostics run in the fetuses resulted negative, except PCV2 that were positive in 5 out of 6 fetuses and with a mean viral load of 1,17 x 10<sup>9</sup> copies per ml. The diagnostics of the fetuses are summarized in table 1.

Table 1: Diagnostic results

N° fetus	Parvo Elisa	PCR influenza	PCR PRRS	PCR PCV2	qPCR PCV2
Fetus 1	-	-	-	-	-
Fetus 2	-	-	-	+	7,8 x 10 <sup>5</sup>
Fetus 3	-	-	-	+	7,7 x 10 <sup>7</sup>
Fetus 4	-	-	-	+	3,7 x 10 <sup>8</sup>
Fetus 5	-	-	-	+	1,9 x 10 <sup>9</sup>
Fetus 6	-	-	-	+	3,5 x 10 <sup>9</sup>

## DISCUSSION AND CONCLUSION

We must take into account that PCV2 epidemiology might have changed since piglet vaccination for PCV2 has been implemented in Spain and elsewhere. In this case report we have confirmed the presence of the virus in the lungs of 5 out of 6 aborted fetuses of different sows. We suggest that in future PCV2 should be considered for differential diagnosis of reproductive disorders of sow herds.

## REFERENCES

- O'Connor B, Gauvreau H, West K, et al.: 2001, *Can Vet J* 42: 551 – 553.
- West KH, Bystrom JM, Wojnarowicz C, et al.: 1999, *J Vet Diagn Invest* 11:530 – 532.
- Maldonado J, Segalés J, Martínez-Puig D, Calsamiglia M, Riera P, Domingo M, and Artigas C. 2005. *Vet J* 169:454 – 6.
- Hernández I. et al. (2016) *Proc. 24<sup>th</sup> IPVS PO-PT2-254*.

